CLAIMS

1. (currently amended) A computer-implemented method of determining at least one risk metric for a portfolio of instruments in a risk management system, comprising the steps of:

(i) selecting a set of financial instruments, each financial instrument in said set having a model defined therefore, each model operating on at least one risk factor to produce a value for said financial instrument;

(ii) selecting a set of scenarios, each scenario comprising a risk factor value for each risk factor operated on by said models of said financial instruments at at least a first and second time interval and each scenario having a probability value assigned thereto, said probability value representing the likelihood of said scenario occurring;

(iii) applying said selected set of scenarios to said set of financial instruments to produce ~~a~~ at least one instrument risk value for each financial instrument in said set of financial instruments for each scenario in said set of scenarios for each time interval;

(iv) storing instrument risk values produced at step (iii) in a database ~~each instrument risk value produced for each instrument in said set~~; and

(v) for a portfolio of instruments comprising at least a subset of said set of financial instruments, producing a desired risk metric ~~from said associated probabilities and said determined risk values for each instrument of said portfolio,~~ wherein said producing step is performed by at least one aggregation engine adapted to

~~by~~ retrieve~~ing said~~ for each financial instrument in said portfolio, stored instrument risk values for each scenario in said set of scenarios for each time interval from said database;

sum said retrieved instrument risk values at each scenario at each time interval to produce aggregated risk values for said portfolio; and

compute said desired risk metric using said aggregated risk values for said portfolio.

2. (currently amended) The method of claim 1 comprising the step of defining whether each instrument risk value produced is stored in step (iv) as an individual instrument risk value or is aggregated with at least one other instrument risk value and stored as an aggregated value.

3. (currently amended) The method of claim 1 where in step (v), said user first selects a subset of financial instruments of interest from said set of financial instruments and said desired risk metric is produced for said subset by retrieving determined risk values for each financial instrument in said subset from said database.

4. (original) The method of claim 1 wherein risk factor values for each said risk factor are also stored in said database.

5. (original) The method of claim 1 wherein definitions of portfolios of instruments stored in said database are predefined.

6. (original) The method of claim 5 wherein said definitions of portfolios are stored in said database.

7. (original) The method of claim 1 where in step (iii), a check is first performed to determine if corresponding risk values for an instrument are already present in said database and risk values are only produced for those not already present.

8. (currently amended) The method of claim 1 where steps (iii) and (iv) are performed in parallel on subsets of said set of financial instruments.

9. (currently amended) The method of claim 1 where step (v) is performed by at least two users, each of said at least two users producing a risk metric for a different selected subset of said set of financial instruments.

10. (original) The method of claim 9 where step (v) is performed in parallel by each of said at least two users.

11. (currently amended) The method of claim 1 wherein said database is organized as a multi-dimensional structure, one axis of said structure representing financial instruments, another axis of said structure representing scenarios and another axis of said structure representing time.

12. (original) The method of claim 11 wherein data is read from and written to said database in multi-dimensional groupings, wherein said grouping includes a selected amount of adjacent data from each of said axes of said structure.

13. (original) The method of claim 12 wherein said selected amount of adjacent data on a first axis differs from said selected amount of data on a second axis.

14. (original) The method of claim 12 wherein the total size of storage required for said multi-dimensional groupings does not exceed a preselected size.

15. (original) The method of claim 1 further comprising the step of modifying said set of scenarios to change at least one risk factor value and performing steps (iii) through (v) to produce a new risk metric.

16. (original) The method of claim 15 wherein said at least one risk factor value is changed such that said value does not change with time.

17. (currently amended) The method of claim 7 further comprising the step of selecting a first subset of said set of financial instruments and determining a risk metric and selecting a second subset of said financial instruments wherein at least one financial instrument in said first subset is replaced with another financial instrument, and performing steps (iii) through (v) to produce a new risk metric.

18. (original) The method of claim 1 wherein step (v) further comprises the step of storing said produced risk metrics in said database.

19. (currently amended) The method of claim 1 further comprising the step of determining a credit exposure risk for at least one first party who is counter party for at least one of said financial instruments in said set of financial instruments, further comprising the step of:

(vi) determining a subset of said set of financial instruments for which said first party is the counter party and determining the credit exposure for said first party by retrieving said stored values and said associated probabilities from said database.

20. (currently amended) A risk management system operable on a set of financial instruments and a set of scenarios, each scenario including risk factor values and a scenario probability, said system comprising:

at least one risk engine operable to determine an instrument risk value for each financial instrument in said set of financial instruments, said risk value determined by evaluating, in view of said risk factors values in each said scenario and at each of at least a first and second time interval, a model stored for said instrument;

a database to store each said determined instrument risk value; and

an aggregating at least one aggregation engine to retrieve ~~said determined risk values, and said scenario probabilities for a portfolio comprising at least a subset of said set of instruments to produce a risk metric.~~ for each financial instrument in a portfolio, stored instrument risk values for each scenario in said set of scenarios for each time interval from said database; sum said retrieved instrument risk values at each scenario at each time interval to produce aggregated risk values for said portfolio; and compute said desired risk metric using said aggregated risk values for said portfolio.

21. (currently amended) A risk management system according to claim 20 wherein said risk engine further comprises a user interface to allow a user to define a portfolio of financial instruments for said aggregating engine to operate on.

22. (original) A risk management system according to claim 21 wherein defined portfolios are stored in said database.

23. (currently amended) A risk management system according to claim 20 comprising at least two risk engines, each of said at least two risk engines operating in parallel to produce instrument risk values for a subset of said set of financial instruments.

24. (currently amended) A computer-implemented method of determining the marginal risk in at least one risk metric for a portfolio, comprising a set of financial instruments, which would result from a proposed transaction to alter said portfolio in a risk management system, each financial instrument in said portfolio and each financial instrument in said proposed transaction having a model defined therefore, each model operating on at least one risk factor to produce a value for said financial instrument, the method comprising the steps of:

(i) selecting a set of scenarios, each scenario comprising a risk factor value for each risk factor operated on by said models of said financial instruments at at least a first and second time interval and each scenario having a probability value assigned thereto, said probability value representing the likelihood of said scenario occurring;

(ii) applying said selected set of scenarios to said portfolio to produce an ~~first~~ instrument risk value for each financial instrument in said portfolio for each scenario in said set of scenarios for each time interval;

(iii) storing instrument risk values produced at step (ii) in a database ~~each first risk value produced for each instrument in said portfolio~~;

(iv) producing a first measure of said at least one risk metric, wherein said producing step at step (iv) is performed by at least one aggregation engine adapted to ~~from said associated probabilities and said determined first risk values for each instrument of said portfolio by retrieving said stored first risk values from said database~~; retrieve for each financial instrument in a portfolio, stored instrument risk values for each scenario in said set of scenarios for each time interval from said database; sum said retrieved instrument risk values at each scenario at each time interval to produce aggregated risk values for said portfolio; and compute said desired risk metric using said aggregated risk values for said portfolio;

(v) for each financial instrument in said set of financial instruments affected by said proposed transaction, altering each said affected financial instrument in accordance with said proposed transaction and applying said selected set of scenarios to each altered financial instrument to produce a ~~second~~ one or more additional instrument risk values for each altered financial instrument for each scenario in said set of scenarios for each time interval; and

(vi) producing a second measure of said at least one risk metric, wherein said producing step at step (vi) is performed by said at least one aggregation engine further adapted to ~~by~~ combine~~ing~~ associated probabilities and said ~~second~~ additional instrument risk values for said altered financial instruments with said ~~first~~ stored instrument risk values for unaltered financial instruments in said set of financial instruments retrieved from said database to ~~produce a~~ compute said second measure of said at least one risk metric.

25. (currently amended) The method of claim 24 wherein said ~~second~~ additional instrument risk values for said altered financial instruments are stored in said database.

26. (currently amended) The method of claim 24 wherein said proposed transaction comprises altering the amount of at least one financial instrument in said set of financial instruments.

27. (currently amended) The method of claim 24 wherein said proposed transaction comprises adding ~~an~~ a financial instrument to said set of financial instruments.

28. (original) The method of claim 24 wherein steps (v) and (vi) are performed for a second proposed transaction and said second measure of said at least one risk metric is produced for each of said proposed transactions.

29. (currently amended) A computer-implemented method of determining counter party credit exposure risk for a portfolio comprising a set of financial instruments in a risk management system, comprising the steps of:

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(i) selecting a set of scenarios, each scenario comprising a risk factor value for each risk factor operated on by said models of said financial instruments at at least a first and second time interval and each scenario having a probability value assigned thereto, said probability value representing the likelihood of said scenario occurring;

(ii) applying said selected set of scenarios to said portfolio to produce an instrument risk value for each financial instrument in said portfolio for each scenario in said set of scenarios for each time interval;

(iii) storing in a database each instrument risk value produced at step (ii) ~~for each instrument in said portfolio~~; ~~and~~

(iv) determining a subset of said set of financial instruments for which a first party of interest is the counter party and determining the credit exposure for said first party of interest by retrieving said stored values and said associated probabilities from said database, wherein step (iv) is performed by at least one aggregation engine.